

THE

December, 1956

CHEMIST

VOLUME XXXIII



NUMBER 12



Thomas F. King

Dr. Clifford C. Furnas (right) receives *Niagara Chapter Honor Scroll* from **Dr. R. Lindley Murray** (center). **Dr. Warren Blumenthal** is at left.

(See Page 461)

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Summary Report on Chemical Profession Title Survey for the Chicago Area, by The Economic Status of Chemists Committee of the Chicago Chapter.

The Chemist, the Industry and National Defense, Simon Askin.

The Relationship of Scientific Manpower to the Future Economic Prosperity and Security of the Nation, D. H. Dawson.

Merrie Christmas and a Happy New Year to All!

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TO COME IN JANUARY

At this threshold of the New Year, Dr. Lloyd A. Hall, F.A.I.C., recently honored by the Chicago Chapter, will glance backward to evaluate the present influence of scientists in society, and will then tell us about "Investments in Tomorrow."

The Chicago Chapter's Economic Status of Chemists Committee gives us a "Summary Report on Chemical Profession Title Survey for the Chicago Area," and recommends that companies attain more uniformity in scientific titles and the experience specified for them.

We Recommend for Your Needs

Baker & Adamson	The Lento Press	481
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EDITORIAL

Bricklayers, Chemical Engineers, and the Christmas Spirit

Dr. Donald B. Keyes, F.A.I.C.

Former President, The American Institute of Chemists

ACCORDING to letters published in the December issue of *Chemical Engineering*, the A.C.S., the A.I.Ch.E., and the M.C.A. are misrepresenting the facts. The writers claim that it is not true today that the financial future of our chemical engineers is as bright as that of our bricklayers. In the true Christmas spirit we rush to the aid of our "bloody but unbowed" friends.

The results of a recent poll of 110,000 engineers (all kinds, all ages, and working in industry, colleges, and government) are now being tabulated. Preliminary results covering the industrial group who graduated in 1950 (average age 27) show a median salary of approximately \$8000.

Now everyone, here in the East, knows that competent chemical engineers have a higher salary scale than does the average engineer.

Unfortunately we have no corresponding and reliable data on recent yearly incomes of bricklayers. However, if the "Plaintiff" will answer a few simple questions perhaps this case can be settled amicably and out of court:

(1) How many bricklayers, age 27, do you know whose total pay in 1956 was at least \$8000?

(2) Even if you know only one, please tell us how many bricks he lays per hour.

(3) If you are a chemical engineer and are not earning \$8000, would you like to change places with your friend the bricklayer?

(4) Let us assume you are a "dedicated" chemical engineer. Would your *professional* life be ruined if, later on, you became an industrial executive and received a salary of \$25,000 to \$125,000, most of which would, of course, go to the government?

(5) One final question, does your charming wife wish she had married the bricklayer instead of you?

Please remember that the sole and only purpose of the AIC is to help *you*, whether you are a member or not, and not our more fortunate selves.

At this Christmas Time, we thank God you are in Illinois, where we have a chapter, and not in Hungary where we do not!

Special AIC Announcements

New Chapter Chairman

The New England AIC Chapter has elected Dr. Eugene G. Rochow, Department of Chemistry, Harvard University, Cambridge, Mass., as chairman, to succeed Dr. Walter R. Smith of Godfrey L. Cabot, Inc., Boston 10, Mass.

Dr. Thomas To Receive Honor Scroll

The Pennsylvania AIC Chapter will present its Honor Scroll to Dr. Charles L. Thomas, F.A.I.C., at a meeting to be held at the Penn Sherwood Hotel, Philadelphia, Pa., on January tenth. Dr. Thomas, who is a member of the Research and Development Staff of Sun Oil Co., Philadelphia, will be honored for his outstanding contributions to the profession.

"Guide for the Young Chemist"

The New York Chapter, through its "Young Chemists Committee", has drawn up an outline for a pamphlet to be distributed to young chemists and those in their senior year of college. The booklet is to be called "Guide for the Young Chemist." It will discuss the chemical industry in the New York-New Jersey area, professional societies and their relation to the young chemist, opportunities for professional growth, tech-

niques of job hunting, etc. Among those who will contribute sections to the booklet are: John Kotrady, Karl Herstein, Ernest Becker, Murray Berdick, Sid Sussman, and Leo Liberthson.

1957

Annual Meeting Committee

The following Committee chairmen are making plans for the 1957 Annual Meeting, to be held at the Sheraton-Mayflower Hotel, Akron, Ohio, May 22-24:

Honorary Chairman, Dr. Ray P. Dinsmore

General Chairmen: M. J. Hiler, Commonwealth Engineering Co., Dayton 3, Ohio

Donn F. Siddall, U. S. Stoneware Co., Akron 9, Ohio.

Program, Dr. J. D. D'Ianni, Goodyear Tire & Rubber Co., Akron 3, Ohio

Arrangements, Dr. O. D. Cole, Firestone Tire & Rubber Co., Akron 2, Ohio.

Registration, Dr. E. M. Glymph, Firestone Tire & Rubber Co., Akron 2, Ohio

Publicity, J. J. Hartz, Goodyear Tire & Rubber Co., Akron 3, Ohio

Sergeant at Arms, E. R. Bronstein, 603 Hoyer, Akron 20, Ohio

Secretary-Treasurer, D. F. Behney, Harwich Standard Chemical Co., Akron 5, Ohio

The Shape of Things to Come

Dr. Clifford C. Furnas

Assistant Secretary of Defense for Research and Development

(An abstract of the acceptance address of the author when he received the Honor Scroll of the Niagara AIC Chapter, June 29, 1956, at Buffalo, N.Y.)

A LOOK at the future must necessarily be based on an extrapolation of present conditions and trends. I consider the most important background facts in the world today to be:

1. The true Industrial Revolution with its implications of mass production and automation is just now getting well started.

2. There is a major ideological conflict with Russia which is being pursued along military, industrial, and economic lines. At the moment there appears to be no feasible compromise in this conflict, though, of course, this situation may change in future years.

3. All of the backward nations of the world are now desperately eager to raise their standard of living. This will necessarily mean a very great expansion of technological and industrial production.

4. The population of the world is growing at an explosive rate.

The population of the USSR itself is estimated to be 210,000,000. Behind the Iron and Bamboo Curtains, including the Soviet Union, there are over 920,000,000. The committed Free World allies number about 800,000,000. The rest of the world's population, that of the un-

committed countries, comes to about 900,000,000. Hence, it is highly important that this country, along with the rest of the Western World, make friends, if possible, with the uncommitted countries.

Russia, with 25 per cent more population than the United States, has an estimated annual gross national product of about \$150-billion compared to the United States' gross national product of \$385-billion. Thus, even though it is being industrialized very rapidly, Russia has a long way to go before its standard of living will equal that of this country.

In the over-all picture the United States has less than one-fifteenth of the world's population, but it produces half of the world's industrial goods and services. Thus, if the rest of the world should suddenly acquire the same material standard of living as the United States, the production of industrial goods and services would have to increase by fifteen-fold.

Because of the explosive rate of population increase, we are inevitably going to have many more people in the world, who must be taken care of by industrial production. Well-founded estimates indicate that 100 years from now the world population

will be at least 6-billion and may be as much as 8-billion. Increasing numbers, plus the irresistible force towards industrialization, is going to call for truly tremendous increases in the use of our natural resources.

I estimate that a century from now the world's energy requirements will be at least 50-fold greater than at present and possibly as great as 100-fold. Thus, it will be utterly impossible to meet the energy demands of the world with our present use of fossil fuels (coal, oil, and gas). The demand and use of other natural resources, such as metals, will probably go up correspondingly. Thus, the basic problem in the Shape of Things to Come, whatever may be the outcome of the ideological or possibly military struggle, will be that of supplying the natural resources for a tremendously expanded industrial economy.

We are faced with a very difficult, though perhaps not an impossible, picture. Not unnaturally I feel that the solution will be arrived at, if there is a solution, through the medium of research.

In this country the research picture is extremely active and is expanding as rapidly as competent personnel can be obtained. It is estimated that in this country 240,000 scientists and engineers are engaged in research and development activities. About 40 per cent of these are engaged in military research and development, and scientists and engineers of adequate

ability are in extremely short supply. To meet both the military and industrial demands they must increase in numbers and improve in quality.

This problem goes back to education. The educational needs for a democratic, industrial society have by no means been met in this country. During the next generation we have a tremendous job ahead of us, again, to increase in quantity and improve in quality.

Turning again to the problem of natural resources themselves; as far as energy is concerned, we can foresee part of the solution in terms of nuclear power, particularly if research points the way toward controlling the fusion (hydrogen bomb) reaction for peaceful power production. Research may also be able to find the solution for the efficient use of solar energy, particularly as we can solve some of the riddles of photosynthesis.

In terms of minerals, we must continue to improve the exploration of the crust of the earth and must improve our methods of re-use of minerals. We must also begin looking to the greatest mine of all, the sea, which contains tremendous quantities, in very small concentration, of a great many of the important minerals. At the present time we are economically recovering magnesium and bromine from the sea. We must devise means of recovering many other substances, such as copper and vanadium.

One of the most essential of natural resources is fresh water. We are al-

THE SHAPE OF THINGS TO COME

ready in the marginal situation in many parts of the world. Here again we must look to the sea and devise an economic means of recovering fresh water from that almost infinite reservoir.

One could go on a long time pointing up the details of the problems that will be involved in the obtaining and wise use of the substances which will be necessary for the future industrial civilization, but these few examples are sufficient to indicate the magnitude of the task and perhaps the direction in which we should look for a solution. These are problems

involving research primarily in the physical and biological sciences.

There will also be very marked and perhaps some severe sociological changes in which more research in the social sciences should be helpful. We are going to have to exert at least as much sociological as scientific wisdom. Whether the world a generation or two from now will be a better place in which to live than it is at the present is impossible to predict, but I am quite sure that a century or even a generation from now it is going to be quite *different* in many important aspects.

Presentation to Clifford Furnas

DR. Clifford C. Furnas, assistant secretary of defense for research and development, received the Honor Scroll of the Niagara Chapter of THE AMERICAN INSTITUTE OF CHEMISTS, at a dinner held at the Hotel Statler, Buffalo, N.Y., on June 29, 1956.

Warren B. Blumenthal, chairman of the Niagara Chapter, and chief of chemical research of Titanium Alloy Manufacturing Division of National Lead Co., Niagara Falls, N.Y., presided. The presentation of the Scroll was made by R. Lindley Murray, Hon. AIC, chairman of the Board of Hooker Electrochemical Co., Niagara Falls, N.Y., and chairman of the Honor Scroll Award Committee. He spoke of Dr. Furnas'

warm personal qualities and reviewed Dr. Furnas' remarkable achievements as an Olympic athlete, scientist, author, and executive.

Leston P. Faneuf, president of Bell Aircraft Corporation, Wheatfield, N.Y., spoke of the high regard in which Dr. Furnas is held in the aviation field and stated that it is commonly felt that Dr. Furnas' appointment as assistant secretary of defense for research and development is one of the most important government appointments of the past decade.

In his acceptance address, Dr. Furnas discussed the "Shape of Things to Come." (An abstract of this address appears on preceding pages.)

Student medal awards were made by Dr. Henry M. Woodburn, dean

of the University of Buffalo Graduate School of Arts and Sciences, to four students recommended to the AIC by the faculties of their respective colleges, for outstanding achievement in chemistry and general scholastic excellence. Winners were Paul Gawrys, University of Buffalo; John J. Bishop, Niagara University; Robert R. Scherer, Canisius College, and Richard V. Kinney, Bonaventure University.

Dr. Furnas, who is on leave of absence from his post of chancellor of the University of Buffalo, is a native of Sheridan, Indiana. He holds the B.S. degree, with honors, from Purdue University in 1922; the Ph.D. degree from the University of Michigan in 1926, and an honorary doctor of engineering degree from Purdue in 1946. An Olympic contestant as a runner, he was awarded the Big Ten Conference Medal for the best combined scholastic and athletic record in 1922.

He has been active in many posts since leaving Purdue, among which are associate professor in chemical engineering at Yale University, industrial consultant, coordinator of a large research and development program for the National Defense Research Committee, director of the Buffalo research laboratory of Curtiss-Wright, director and later executive vice president of Cornell Aeronautical Laboratory. He assumed the post of Chancellor of the Uni-

versity of Buffalo in 1954, and was granted a leave of absence beginning December 1, 1955, to serve the government in his present capacity.

Dr. Furnas edited Roger's *Manual of Industrial Chemistry* and has written many technical articles. He is the author of four books, including, *The Next Hundred Years*, a 1936 Book-of-the-Month Club selection, and *Man, Bread, and Destiny*, written with Mrs. Furnas, a scholar and community leader in her own right.

He has headed or served on several government committees with special emphasis on aeronautics, and he is a member or fellow of a number of professional societies as well as being a director of the Manufacturers and Traders Trust Co. of Buffalo.

The citation on the Honor Scroll reads:

To

Clifford C. Furnas

For many years of distinguished service to academic and applied science in the capacities of teacher, laboratory scientist, research director, author, and servant and adviser of the Government of the United States and its agencies.

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Communications: The Chemist's Viewpoint

Dr. Johan Bjorksten, F.A.I.C.

President, Bjorksten Research Laboratories, Madison 1, Wisconsin

(Condensation of a paper presented at the third Professional Session, "Communication and the Individual Professional Man," at the 33rd AIC Annual Meeting, Boston, Mass., May 11, 1956.)

WE shall concentrate here on factors which the individual chemist may do well to consider in his communication with collaborators whether they be above, below, or in parallel with him on the organizational chart.

Even at best, words are inadequate. There is an undercurrent of emotion and intent, too often not conveyed. In writing, this undercurrent may be totally lost. In a personal meeting, it may be expressed by facial expression, by the firmness of a hand shake, by an inflection.

Language is a frightfully ambiguous medium. As Korzybski pointed out, it has evolved in a "hit and miss" fashion from the grunts of cavemen, and so has become established without much thought, logic, or even common sense, as anyone who has read the grammar of any natural language full well knows.

The meaning of words depends on the understanding and the background of the persons speaking and hearing it. Such a common word as "pot" means to the baking chemist a cooking pot; to the coffee chemist a coffee pot; to the medical chemist the belly of a stout man; to the

petroleum chemist a large pot still; to the electrochemist a vessel filled with dielectric; and to the hospital technician a receptacle for urine. Yet professionally, these persons are all in or adjacent to the chemical profession, and certainly have to communicate with each other.

There exists an insurance suit, where the question is whether or not the term "production machine" includes an ordinary glass reflux condenser. In a second floor laboratory, a reflux condenser was left operating overnight, the rubber tubing slipped, and the water flooded the floor below, damaging the stock of a merchant. The insurance covers water damage except from "production machines." The insurance company maintains that a reflux condenser is a production machine, while the laboratory maintains it is a research tool. The decision will involve thousands of dollars. This is a clear example of the inadequacy of language.

Nor is this a peculiarity of English. In German, for example, the word "Schlag" can mean: blow, stroke, impact, shock, knock, kick, percussion, stamp, cutting (of wood), beat, pigeon loft, bay (of trench), dash,

out of true, out of round, lay turn, lay (of cable), pounding, wobble (of phonograph disk), click, thump or chatter (of a key or contact), car or carriage door . . . as pointed out in an essay by Mark Twain. The Latin languages are said by philologists to be highly precise, but the French word "prendre" can mean: take, catch, seize, get, receive, take on, adopt, deduct, solidify, congeal, freeze, curdle, coagulate, cake (of cement), set, set about, begin, catch (at), lay the blame on. . . Even the simplest words can be ambiguous.

It has been suggested that mathematics, used as a language, can remove ambiguities. This is all right so far as it goes. For example, in a patent royalty agreement it is highly desirable to give a mathematical formula for the way the royalty is to be computed. However, mathematics can be indefinite, too, when we come to second and third derivatives. They hopelessly fail to express feeling or emotions, on which important decisions are based.

Select the Frame of Reference

With this sadly inadequate medium, what can we do to insure clarity of communication? The first thing is to determine what frame of references the person addressed is most familiar with and then to make the message in these terms.

Recently I was talking with a non-technical oil company executive, regarding instrumentation for determining the direction of an oil drill in under-sea drilling. He just did not seem to catch the point. Luckily I had noticed in his office many beautiful photographs of a large sail yacht. I realized that he was an ardent deep sea sailor, so I used navigational terminology and told him we were trying to find better means for establishing the position of the tool by "dead reckoning". This reference to the navigational technique of calculating a boat's position by keeping track of courses and speeds immediately made him grasp what I was talking about, as the subject was thus brought within a reference frame where he felt at home.

A masterly application of this technique was used by Mr. Kettering, of General Motors, just as we entered World War II. At a meeting on war production, many of the difficulties of conversion were brought up. The mood of the discussion was heavy. At that point, Kettering said, "After all, to change from automobile production to tank and gun production is no more difficult than to change from 1941 Chevrolets to 1942 Chevrolets — just a retooling job." By bringing the problem to terms familiar to us, he removed the psychological obstacle; the meeting took on another aspect and decisions were made effectively.

How to Handle Pressure

One of the most common situations the chemist is apt to face is pressure to bring out a new development prematurely, before it is fully tested. He reports a new invention; the sales department needs a new product. The chemist may suddenly find himself pressured to give the "go ahead" before the testing is complete. Where such a situation might arise, it is a wise precaution for the chemist in his report to take more than usual pains to spell out in advance the testing program which should be followed before the product can be safely launched. This should be done in simple words, so that a non-technical sales executive cannot fail to understand it.

When, in spite of this, pressure develops, the best reply for the chemist is to quote specific instances of costly failures which were due to products being brought out before being fully tested, and to say he will be glad to cooperate, but asks that the person requesting the premature action go on record with a written request stating that this is entirely on his responsibility. This he will never do, and so the chemist will avoid being pushed out on a limb.

How to Ask for a Raise

Another communication problem is when the chemist wishes to inform his superior that he ought to receive a raise. This is most effectively done in terms of the company's interest.

Some time ago, one of my junior associates asked me, "It is your policy, is it not, to pay a salary level in line with the rest of the local industry?" I said, "Of course." He asked if I had heard that the X company had recently raised the pay of persons of his level. I thanked him for the information, checked it, and he received an increase promptly. His approach was more effective, and left more good will than if he had told me that he needed more money for some personal reason, or that he felt he was entitled to it. Again, the superior's background should determine the approach. With an engineer appeal can be made to efficiency and incentive; with a financial executive, to proven profits which have resulted from the chemist's work; with a sales executive, to the going rate and supply and demand. But any appeal is better phrased as a few polite questions than as a demand. In these days when jobs are more plentiful than men, a question is usually enough to get the result and it lets the superior retain the satisfaction of feeling that the initiative was his. This is worthwhile in long-term good will.

How to Make Suggestions

The question is often the best way of communicating an idea or a criticism. A chemist who enters new employment will invariably see things he feels could be done better. His first reaction will be to tell the persons

involved to change their procedure. He should not yield to that temptation. At best, it will not make friends. At worst, it may greatly weaken his position. There might well be some reason he did not appreciate why the old procedure is preferable; and someone who feels unfriendly could use his insufficiently considered recommendation to "cut him down to size." When in unfamiliar surroundings, it is always best to use the question technique for communication. "How would it be if you tried to do this . . . ?" Then, at worst, the chemist is in the position of a seeker of information, which no one could hold against a newcomer. At best, the reply might be "A good idea." The question technique places the chemist in a position where he has nothing to lose and much to gain.

How to Present a Tangible Idea

In the opposite situation, the chemist has developed a new product, and the sales department "drags its feet," or perhaps the chemist has made an invention he wishes to sell. The one thing he can do then in the way of communication is to make a really good sample. When selling an idea, a sample is worth a hundred drawings, and a drawing is worth a hundred written pages. It is natural for a chemist to feel that "anyone could see that on production this would come out fine." Such a feeling is wrong. Persons who have not lived with a development do not have the

interest nor the background, and usually not the imagination, or the will, to read into a sample more than exactly what they see. Time is well spent in preparing a good display and good samples. The importance of such visible and tangible displays may be further enhanced by the advent of closed circuit television as a means of intercompany communication.

Ways to Save Time

Everyone appreciates the relative advantages and disadvantages of written memos, conferences and telephones. But if you are dealing with a long-winded person, it is better to go to see him, than to let him come to you, because you can always get away from another man's office more gracefully than you can get him out of yours.

Time is all important, so communications must be precise. Weather is a common source of time loss. A firm employing 500 technical salesmen computed that the time lost by salesmen talking about the weather averaged 12 minutes each per day, or 60 hours per man-year, or 30,000 man-hours per year, which, at the average cost of a salesman on the road at \$4.00 per hour, amounted to \$120,000 per year. In an effort to stop this waste, they instructed their representatives to reply to the question, "What was the weather where you came from?", "Just about the same

as here." That stopped conversation about the weather and cut the time loss one-third.

The Importance of Copies

In written communication, the carbon copy should always be a true carbon copy of the original. Once an important memo, which was to serve as a basis for a contract, was sent to the president of the company by the chief chemist. During the coffee break, his secretary spilled coffee on the original, so she re-typed it. The chief chemist did not know that the original and the carbon copies were from different typings. Moreover, the secretary made an error in the second typing, and listed the production capacity of a raw material from the pilot plant in gallons instead of in pounds. As a result, the president signed a contract agreeing to deliver five-times the quantity that could be produced. The chief chemist, who had before him the carbon copy showing his report to be correct, was sure in saying that he had reported the quantity in pounds; while the president, with the original showing the quantity in gallons, was understandably angry at the chief chemist for denying a statement which he had in his own hand. The chief chemist was on the verge of being fired for having made an expensive mistake and then denying it in the face of clear evidence, when the secretary was fair enough to inform the president that the carbon copies in the file were not copies

of the same typing as the original. After that, the chief chemist told every newly employed secretary about the importance of seeing that carbon copies are always from the same typing as the original.

Sometimes the chemist does not know to whom copies of a certain memo should go. The safe course is to mark the copies as he thinks is indicated, but to send all of the carbons and the original to his immediate superior, who may then use his judgment.

Two more instances of communication are reports on possibly patentable ideas for the patent department and the chemist's instructions to his own assistants.

Patent Procedures

In large firms the patent department usually has forms which emphasize: Date the idea was conceived; date of disclosure, and above all, in case of necessity, who would act as a witness that on a specific date the invention was disclosed to him so *that he understood it. Also, how good a witness would that person make and could he be shaken under cross examination by the opposing side?* These are considerations of great concern to patent lawyers. In framing his communications to them, the chemist should keep these points in mind. He can help the patent lawyers and his own case, if he chooses as his witness someone who would make a good appearance in

court, and takes pains to communicate his invention to this person so it will be remembered. He should not merely say, "Please sign this for me," but explain it, ask a couple of questions to make sure it is understood, then have the witness also write the date in his own handwriting.

In smaller firms where no procedure for invention reporting exists, the chemist may have the opportunity to establish this procedure. He should do this in such a manner that his contributions are sure to be noted. A favorable procedure is to make four copies of every invention report; one to the president of the company, one to the patent department, one to the inventor's immediate superior, and one to be retained by the inventor. This is a good system for all. In most companies the president would personally read at least the summary of anything headed, "Invention Report". He would at least get the impression that the inventor had taken a laudable initiative. His favorable impression may go further. The fact that the president automatically received a copy would deter any of the inventor's superiors from claiming the invention as his own, something that does not happen very often now, but is still a possibility, even in good faith, human memory being fallible.

The patent department likes the system because it gets a clear report, and because the chemist has a greater

incentive to give it a complete report than he would if the distribution of copies were different.

The chemist's superior likes the system, because it relieves him of the job of composing one more report, and it brings a phase of the productivity of his department to top executive attention, where his position and standing are strengthened by frequent reports of inventions.

Finally, the inventor has the advantage of having each invention brought to top executive attention, so that his name will be known and a favorable impression created when next his superior recommends him for advancement. Further, his retention of one witnessed copy guarantees that he will not be forgotten, should the invention be shelved, and resurrected years later under the name of a later inventor.

Instructions to Assistants

In communication with his assistants and technicians, the chemist must make certain that they understand why an order is given and are thus in position to use their intelligence in an emergency. It pays to make certain that the purpose and surrounding facts of the work are understood. Anyone will work with more enthusiasm and ability, if he understands the objective and feels that he is a part of the team. Also occasions may arise, such as sudden illness, where it would be extremely

helpful if junior members in the laboratory understood the reasons for their task.

Communications sometimes are blocked by lack of access, lack of sympathy, or lack of channels. In such cases, an indirect approach may be desirable, as in pool, when the direct path to the black ball is blocked, one shoots at the barrier to let the ball ricochet to make its mark. However, the indirect approach is a risky path, because every additional step in communication introduces extra chance for distortion. It is best to address a message directly to the person intended, or, if channels must be observed, have the message presented in writing with enough extra carbon copies so that each person through whose hands the message will pass can keep a copy. Thus, there is less risk that someone will retain the original message and abstract or paraphrase it, distorting the meaning or the spirit. People like to save themselves trouble. If there are carbon copies for all, the chances are much improved that the message will go through in its original form.

A Problem of Communications

There are problems in communication which seem to defy the most careful, persistent effort. For example, in the chart showing the rate of mortality of man, in the United States, for ages 15-85, the curve really indicates a decrease in resistance and powers of recovery which takes place

as age advances. Thus three out of four deaths which occur at the age of 30-40 would not have happened if the recuperative powers had remained those at 15-20. The biggest unanswered question in biochemistry today is why the curve bends upward as it does. If aging were due merely to accumulative trauma, we would have a straight line. From shape of this curve and what we know, we may draw conclusions: If tomorrow we should discover the cure of cancer, arterial disease and heart disease, we would still only lengthen the human life some 30-40 years at most. Due to the decline in resistance we would soon reach a point where even a slight cold would become fatal.

On the other hand, if we should discover the reason for this change in the curve of resistance, means might be found to increase the present life span several times, and in particular the youthful and vigorous phases of life could be extended.

The most difficult problem in communications today is to make those who control the spending of large funds for medical research realize the plain fact, inescapably clear to the intelligent biochemist, that the potentially most rewarding problem in medical research is to determine the biochemical cause of aging, as expressed by the declining resistance that takes place, and to attack this cause.

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New Position: For Dr. Charles J. Norton, A.A.I.C., who has joined the Chemistry Section of the Ohio Oil Company, Research Center, Denver, Colorado. He received the Ph.D. in chemistry from Harvard University in 1955, and was awarded an AIC student medal in 1951, when he was a senior at Purdue.

Moved: The Newark, N. J., branch of Central Scientific Co. of Chicago, Ill., to a new building at 237 Sheffield St., Mountainside, N. J.

Change of address: For William B. Winship, F.A.I.C., who is now at 100 Righter Road, Succasunna, N. J.

Honored: Lawrence H. Flett, F.A.I.C., formerly director, New Products, and now consultant to National Aniline Division, Allied Chemical & Dye Corp., who was made an Honorary Member of the Societe de Chimie Industrielle, at a banquet, November 24th, which closed the Twenty-ninth Congress of Industrial Chemistry in Paris. Mr. Flett is president of the American Section of the Societe. The honor conferred upon him has been accorded to only a limited number of outstanding members of the chemical industry.

Mr. Flett will return to the United States on January fifth.

Symposium: By the Association for Applied Solar Energy, with Stanford Research Institute, Arizona State College at Tempe and the University of Arizona, January 21-22, 1957, at the Hotel Westward Ho, Phoenix, Arizona, on "Today's Tool for Tomorrow's Research"—solar furnace design and operation. Information: John I. Yellott, 3424 N. Central Avenue, Phoenix, Arizona.

Moved: The general offices of the United States Radium Corp., from New York to Morristown, N. J.

New Plant: To be built by Corning Glass Works of Corning, N. Y., at Greenville, Ohio. The new factory will manufacture Pyrex brand glass products. Production is scheduled for 1957.

Communications

Professional Degrees

To the Editor:

I just finished reading the communication of Mr. William E. Austin, F.A.I.C., to you in your October 1956 issue of *THE CHEMIST*, p. 405.

Mr. Austin's subject has occupied my thoughts many times in a rather unhappy and dissatisfied manner. Why is it that chemists even with doctor's degrees are so seldom called by that title when they leave their offices in industry or at the school and go home to be with neighbours, friends, and the community at large in which they live? Why is it that if they are introduced as doctors the first question is "where do you practice, doctor?", and if you then explain that you synthesize organic compounds you are never called doctor again? Why? My wife calls this my "bone". Whenever we are out with other people and the subject is brought up, I have to air my views on the unfairness of the situation, whereupon she immediately remarks, "Oh, oh, let us bury this bone!" But I cannot help picking on this subject. The discrepancy does not stop but merely starts with the title. It goes by far much deeper. Mr. Austin may have touched on an excellent idea by suggesting a professional degree. Then, however, comes the far more difficult task to educate the public.

According to H. Alan Skinner (Williams & Wilkins Co.), Doctor originally meant teacher; the term stems from the Latin verb, docere, to teach. When universities originally conferred only bachelor and master degrees, doctor applied to teaching masters. Its use for a degree superior to master was introduced at Bologna in the 12th Century. In the 15th Century, doctor became associated with the medical profession, since of all branches of learning using the degree, only the medical teaching master went out among the people, retaining the title, doctor, and so became known. Since then the School of Medicine dissociated itself from the academics and issued a separate doctor's degree no longer superior to master or bachelor but entirely on its own. But how can you teach this to the public when the true doctors still teaching in universities simply sign their names: John Smith, Chairman of the Department of Chemistry, without their degrees? Is it

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surprising, then, if someone addresses them as Mr. Smith—which they then resent? Did you ever see a physician's bank check without the M.D., behind his name, or his signature without it? That is good advertising for a high professional status in the community! The telephone company, too, does not appreciate a Ph.D. I had quite some time persuading them to add Dr. after my name; I preferred the Ph.D. to avoid confusion with chiropractors and osteopaths, but they insisted on either M.D. or Dr., they had never heard of Ph.D.! I would suggest as a first step in public education to approach the telephone companies on a national scale; secondly, to insist that all chemists show their highest degree, be it bachelor, master, or doctor, in the telephone listing, on their letterheads, and otherwise, when they sign their name. That is the best free advertising we could have.

Further I suggest the following professional degrees as in contrast to academic degrees:

Bachelor of Chemistry, Engineering, Mathematics, etc.

Master of Chemistry, Engineering, Mathematics, etc.

Doctor of Chemistry, Engineering, Mathematics, etc.

These are to be conferred in addition to B.S. or B.A.; M.S. or M.A.; D.Sc., Sc.D. or Ph.D.

Abbreviations for the academic degrees behind the name are well known; those for the professional degrees could be as follows (also behind the name, except for doctors, it, being the highest, could be in front of the name) B.Chem. or B.Eng., etc.; M.Chem. or M.Eng., etc.;

Dr. Chem. or Dr. Eng., etc. The D.D. and the Ed.D. degrees are well known, as is the J.D. degree, but in lesser use. This by the way is already done in continental Europe where these abbreviations behind names as we have them are unknown.

Furthermore, as Mr. Austin points out, "... it would be illegal for a chemist to engage in activities which impinge even remotely upon the practice of medicine ... yet (it is) legal for a physician ... to practice chemistry ...". I therefore suggest that a system of licensure be introduced to license research. Only persons adequately trained and experienced in research such as is demonstrated by earning an advanced academic degree in a basic science (medicine, surgery, pathology, are not basic sciences; an M.D. is NOT an academic degree) or its equivalent years of experience in practice and/or research should be licensed to engage in research and receive research grants including biochemistry, bacteriology, physiology, etc. This is not practice of medicine involving treatment and we would thus save thousands or millions of dollars spent in worthless so-called "research." This would mean fighting the AMA machinery in Washington, D.C. and in state legislatures. Can we afford this? A multimillion dollar business is involved. The AMA knows it and would be willing to spend plenty to keep the chemists where they are. This is certainly a good sign that it IS worth the money and the energy. Can we, therefore, afford NOT to do it?

We should also have a good comic: Rex Morgan, Ph.D., a TV show: The Chemist or Chemical Horizon, etc. Strips like Dr. Meteor, the mad scientist, should be banned; it is only detrimental in the public eye. Teachers should never be ridiculed or shown to possess bad character in any of the comic strips. They are the highest in morals and character.

The definition of a professional person on page 400, as given by Dr. Dinsmore, is wonderful, and just right. It is certainly not too idealistic. In my opinion a scientist can never be too idealistic. Protective legislation seems to be essential now more than ever before since our responsibility to the general public is far too great to have others if unprotected mess it up for us to the detriment of the welfare of the public at large.

Let us then set up schools of Chemistry. We already have schools of Engineering, Law, etc. Let us issue professional degrees of high caliber from these schools, let the public know that we have these degrees; let us get licenses to practice what we learned, and let us make darn sure no one takes away from us what rightfully is ours, and ours alone.

—Dr. Otto E. Lobstein
Beverly Hills, Calif.

No Longer Available

To the Editor:

We regret that our book, "Accidental Scientific Discoveries" (By Bernard Schaar, F.A.I.C.) is no longer available...

—Rosemary Ferraro
Schaar & Co., Chicago, Ill.

A New Approach

To the Editor:

Mention of THE CHEMIST was made in the current issue of *Textile Age*. I thought you might like to read it... (See below):

—P. J. Wood, F.A.I.C.
Carlton Hill, N.J.

"Perdition?"

"In 'Condensates', which is a sort of monthly post script to THE CHEMIST, that worthy organ of the American Institute of Chemists, Ed. F. Degering, the able editor of this delightful column, says 'A new approach to many chemical fields is afforded by the new intermediate cyanuric chloride.'"

"Judging by its name it might also afford a new approach to the Elysian Fields."
—Q.E.F."

Of Value To The Profession

To the Secretary:

I feel the AIC is of value to the chemistry profession and... I enjoy greatly your publication...

—Royal G. Albridge, A.A.I.C.
Berkeley, California



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October Meeting

The 311th meeting of the AIC National Council was held Oct. 10, 1956, at 6:15 p.m., at The Chemists' Club, New York, N.Y. President John H. Nair presided.

The following officers and councilors were present: J. Bjorksten, W. Blumenthal, R. P. Dinsmore, A. W. Fisher, Jr., H. B. Hass, F. A. Hessel, D. B. Keyes, S. D. Kirkpatrick, W. R. Koster, J. H. Nair, E. Ott, M. Sittenfield, W. J. Sparks, G. H. Taft, and L. Van Doren. Dr. Max Bender, chairman of the New Jersey Chapter; Dr. J. D. D'Ianni, co-chairman of the 1957 Annual Meeting Program Committee; Dr. L. T. Eby, chairman of the Membership Committee; K. M. Herstein, alternate for the New York Chapter Representative; J. Kotrady, chairman of the Qualifications Committee; B. Sweedler,

chairman of the Committee on Constitution and By-laws, and V. F. Kimball, were present.

President Nair reported that he had met with the Council of the Ohio Chapter in Cleveland to discuss plans for the 1957 Annual Meeting to be held in Akron Ohio. He had attended the meeting of the Chicago Chapter at which the Honor Scroll was presented to Dr. Lloyd A. Hall.

The Secretary reported that the AIC membership numbers 2892. He announced with deep regret the deaths of the following Fellows:

Elmer C. Bertolet on July 16, 1956

Dr. Martin Meyer on July 28, 1956

Harold A. Sweet on June 29, 1956

Dr. Frederick W. Zerban on August 30, 1956

The following persons were given Em-

eritus status: Dr. Wallace P. Cohoe, Dr. Joseph Ebert, Dr. Edwin E. Hutching, Albert J. Kroner, William J. Lipton, Dr. Carl L. Masters, Dr. Willem Rudolfs, and Dr. Norman A. Shepard.

President Nair announced that the AIC has been added to the Committee to Select the Perkin Medalist, in accordance with a letter received from the Society of Chemical Industry.

The Secretary announced that Dr. A. W. Fisher, Jr., represented the AIC at the special Perkin Convocation at the Lowell Technological Institute, on September 27th.

A letter from Albert C. Holler was presented. It enclosed a petition of ten AIC members for the formation of a local AIC chapter in the Minneapolis-St. Paul area. The petition was approved. The territorial area of this new "Twin City Chapter" was designated as the State of Minnesota.

Dr. Eby reported the activities of the Committee on Membership.

Mr. Blumenthal stated that the Niagara Chapter had held outstandingly successful meetings by concentrating on professional, rather than technical subjects.

Mr. Koster reported plans for the Washington Chapter, which is continuing its work on Civil Service Standards for Chemists, in addition to other projects.

Mr. Herstein informed the group that Charles C. Concannon, for many years a member of the National Council, has been seriously ill.

President Nair announced the schedule for future annual Meetings:

May 22-24, 1957, Akron, Ohio

April 10-11, 1958, Los Angeles, Calif.

May, 1959, the New York area.

Dr. Bender reported that the accent is on professionalism in meetings of the New Jersey Chapter.

Mr. Herstein announced that a committee of New York Chapter members is planning to prepare a guide for young chemists. Each section of the guide will be written by someone proficient in that field.

Dr. James D. D'Ianni reported progress on the 1957 Annual Meeting program plans.

Dr. Bjorksten stated that the Chicago Chapter also emphasizes professional subjects at its meeting.

Mr. Taft announced that Honorary

Membership will be presented to Dr. W. George Parks, Oct. 31st, at the MIT Faculty Club, Cambridge, Mass., with President Nair present. Mr. Flett will speak on the recipient. The meeting was arranged on short notice because both Dr. Parks and Mr. Flett plan to go to Europe in November.

Mr. Sittenfield announced that the Pennsylvania Chapter will hold a joint meeting with the Philadelphia Sections of the American Chemical Society, the Electrochemical Society and the American Institute of Chemical Engineers, December 6th, on the subject of "Scientific Manpower." At the Jan. 10th meeting, the Honor Scroll of the Pennsylvania Chapter will be presented to Dr. Charles L. Thomas.

After discussion on the problem of arousing professional interest, Dr. Dinsmore suggested that the Chapters decide what problems of professional significance are important in their areas and then request assistance from the National Council.

It was suggested that a booklet be published which would summarize the AIC programs and accomplishments, and the matter was referred to the Executive Committee.

Mr. Sweedler reported for the Committee on Constitution and By-Laws that the proposed Constitution of the new Twin-City Chapter had been approved.

Mr. Sweedler reported that a Bill to permit the self-employed to deduct a percentage of income to be placed into a retirement fund, tax deductible, was to be presented before Congress in January. A similar bill failed to pass at the last session of Congress. He suggested that the local Chapters appoint committees to support this bill which is approved by the American Bar Association and other groups. The matter was referred to the Executive Committee.

Dr. Keyes announced that Dr. J. C. Warner made an address before the American Chemical Society this Fall, in which he stated that nothing had been done in twenty years to improve the chemistry curriculum in our colleges and universities. President Nair was requested to appoint a committee of three to see if the AIC can take some action in this situation.

The Secretary was requested to send out copies of the Proposed Contract for Chem-

COUNCIL

ists and Chemical Engineers to the placement departments of the colleges and universities accredited in chemistry.

Mr. Herstein reported that the project to obtain summer employment for teachers had been quite successful.

The following new members were elected:

Fellows

Blum, George W.

Assistant Manager, Chemical Engineering, Goodyear Tire & Rubber Co., Akron, Ohio.

Borders, Dr. Alvin M.

Associate Director of Research, Minnesota Mining & Mfg. Co., 2301 Hudson Blvd., St. Paul 6, Minn.

Brown, Dr. Arthur E.

Group Leader, Organic Research, Air Reduction Co., Inc., Air Reduction Engineering & Research Labs., Murray Hill, New Jersey.

Brownell, Dr. George L.

Assistant Professor of Chemistry, Lehigh University, Bethlehem, Penn.

Bulloff, Dr. Jack J.

Principal chemist, Battelle Memorial Institute, 505 King Ave., Columbus 1, Ohio.

Dunne, Theodore F.

Chemist, Research Coordinator, E. Fougere Co., Inc., 75 Varick St., New York 13, N.Y.

Dyck, Dr. A. W. J.

Editorial Director, The Paper Industry, 431 S. Dearborn St., Chicago 5, Ill.

Hill, Dr. Ralph M.

Research Chemist, Esso Res. & Engineering Co., P.O. Box 51, Linden, New Jersey.

Kade, Dr. Charles F. Jr.

Director of Division of Medical Sciences, McNeil Labs., Inc., 2900 N. 17th St., Philadelphia 32, Pa.

Kundiger, Dr. Donald G.

Associate Professor of Organic Chemistry & Laboratory Head, Kansas State College, Chemistry Dept., Manhattan, Kansas.

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Lauro, Michael F.

Chief Chemist, New York Produce Exchange, 2 Broadway, New York 4, New York.

Simon, Dr. Allen B.

858 Eastern Parkway, Brooklyn 13, New York

Zimmerman, Harry M.

General Manager, Seiberling Rubber Co., Plastics Div., Newcomerstown, Ohio

Life

Wilson, Dr. William S.

Professor of Chemistry & Head of Department, University of Alaska, College, Alaska.

Members

Colokathis, Bertha P.

Industrial Chemist, Transition Electronic Corp., 164 Albion St., Wakefield, Mass.

Lenhoff, Edward S.

Chemist, U. S. Vitamin Corp., 38 Vark Street, Yonkers, New York

Swanson, Arnold A.

Vice President, Director of Labs., Swanson Biochemical Labs., Inc., P.O. Box 976, San Antonio, Texas

Associate

Baron, Allen

Director of Research, Perbro Labs, Div. of Perry Bros., 61-12 32nd Ave., Woodside 77, Long Island, New York

Raised from Member to Fellow

Dusenbury, Dr. Joseph H.

Assistant Director of Research, Textile Research Inst., P.O. Box 625, Princeton, N.J.

Raised from Associate to Member**Ingersoll, William C.***Research Chemist, Durez Plastics Div.,
Hooker Electrochemical Co., Le Roy,
N.Y.***Reinstated as a Fellow****Pommer, Dr. Alfred Michael***Chemist, U. S. Geological Survey,
Washington 25, D.C.***Louisiana Chapter***Chairman, C. L. Hoffpauir**Vice Chairman, Dr. W. R. de Monsabert**Secretary-Treasurer, Mack F. Stansbury**Southern Regional Research Laboratory
1100 Robert E. Lee Blvd., New Orleans
19, La.**Representative to National Council, Har-
old A. Levey***AIC Activities****Ohio Chapter***Chairman, Harold M. Olson**Chairman-elect, Donn F. Siddall**Secretary-Treasurer, Dale F. Behney**1018 Roslyn Ave., Akron 20, Ohio**National Council Representative, Guy A.
Kirton***Dinner of the
Chemical Profession**

The Ohio AIC Chapter was one of the sponsors of the Eighth Annual Dinner of the Chemical Profession in Cleveland, November 14th, at the Hotel Manger. Other sponsoring societies were the Cleveland Sections of the Electrochemical Society, the American Chemical Society, Alpha Chi Sigma, and the American Institute of Chemical Engineers.

Dr. John C. Warner, Hon. AIC, president, Carnegie Institute of Technology, and president of the American Chemical Society, spoke to a large and enthusiastic audience on "Our Country's Most Paying Investment."

Two Fellows of the AIC, Dr. Everett C. Hughes, of Standard Oil Company (Ohio), and Dr. Karl S. Willson of General Dry Batteries, Inc., received Merit Awards for outstanding activity in furthering professional activities of chemists in the Cleveland area.

1957 Annual Meeting

The Ohio AIC Chapter will be the host for the 1957 AIC Annual meeting at the Sheraton-Mayflower Hotel, Akron, Ohio, May 22-24, 1957. It is not too early to start making plans to attend this meeting.

Professional Status

AIC President, John H. Nair, assistant director of research, Thomas J. Lipton, Inc., Hoboken, N.J., was the speaker at the annual fall meeting of the Louisiana Chapter, Nov. 28, 1956, at the Richardson Chemistry Building, Tulane University, New Orleans.

Prior to the meeting, Mr. and Mrs. Nair were entertained at a dinner in the Brick Room of Brennan's, famous restaurant in New Orleans' French Quarter.

Chairman C. L. Hoffpauir presided at the meeting. Harold A. Levey introduced the speaker. Mr. Nair spoke on two topics, the first dealing with the food processing industry in the United States and "The New Look in Foods"; and the second, "Attaining Professional Status", in which he gave some of his views about the present status of chemists and chemical engineers, ways for them to achieve professionalism, and in which he reviewed some of the accomplishments of the AIC since its founding.

After the meeting was adjourned, coffee was served at a social hour. Later in the evening, Mr. Nair met informally with the officers and committee chairmen of the Louisiana Chapter and pointed out several methods for increasing achievements and effectiveness of the AIC on the local as well as the national level. It was suggested that the Chapter select one project each year and pursue it vigorously.

Pennsylvania Chapter*Chairman, Dr. John H. Bohrer**Secretary-Treasurer, Dr. A. M. Immediata**International Resistance Corp.,**401 N. Broad St., Philadelphia, Pa.**National Council Representative, Marcus
Sittenfeld*

Scientific Manpower

The Pennsylvania Chapter met, December 6th, jointly with the Philadelphia Section of the American Chemical Society, the Philadelphia Section of the Electrochemical Society, and the Philadelphia-Wilmington Section of the American Institute of Chemical Engineers, at the University of Pennsylvania Museum Auditorium, at 2:00 p.m., to hear a symposium on "Scientific Manpower—Its Meaning to the Scientist and the Nation."

Dr. Norman Shepard, F.A.I.C., retired chemical director, American Cyanamid Co., was keynoter and moderator. Speakers were Dr. Christopher Wilson, vice president, Hudson Foam Latex Co., Yonkers, N.Y., on "The Relationship of the Economic Status of the Scientific Profession to its Manpower . . . Balance of Supply and Demand;" Dr. Eli Ginzberg, director of staff studies, National Manpower Council, Columbia University, New York, N.Y., on "The Utilization of Scientists;" and Dr. Henry C. Kelly, associate director, National Science Foundation, Washington, D.C., on "The Effect of Opportunities for and Nature of Education on the Quality and Quantity of Scientists Required for the Economy."

The symposium was followed by a cocktail hour and dinner. The dinner speaker was Dr. David H. Dawson, vice president, E. I. du Pont de Nemours & Co., who discussed the relationship of scientific manpower to the future economic prosperity and security of the nation.

Washington Chapter

President, Wesley R. Koster

Vice President, John G. Fletcher

Secretary, Frederick S. Magnusson

Bureau of Foreign Commerce,

U.S. Dep't of Commerce

Washington 25, D.C.

Treasurer, Albert F. Parks

Representative to National Council, Wesley R. Koster

Economic Status

The Washington Chapter met November 13th, at luncheon, at O'Donnell's Sea Grill, Washington, D.C.

Following the news of AIC current activities, Dr. B. R. Stannerson, secretary

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for the Committee on Professional affairs, American Chemical Society, spoke on the "Economic Status of the Chemist." Dr. Stannerson's article on "Starting Salaries—1956" appeared in the September 3, 1956, issue of *Chemical & Engineering News*. His talk enlarged upon this subject, revealing that ACS surveys show that median salaries of chemists and chemical engineers, even after many years of industrial experience, as well as in starting salaries, compare very favorably with median salaries and/or median income of other professions, including medicine.

Will You Come

Jan. 10, 1957. Pennsylvania Chapter.

Penn Sherwood Hotel, Philadelphia, Pa.

Reception, 6:30 p.m. Dinner, 7:30 p.m.

Annual Honor Scroll Award dinner.

Dr. Charles L. Thomas, F.A.I.C., out-

standing chemical engineer, will be

honored for his outstanding contribu-

tions to the profession of chemistry.

For information, Dr. A. M. Immediata,

International Resistance Corp., 401 No.

Broad St., Philadelphia, Pa.

Jan. 15, 1957. New Jersey Chapter.

Meeting at Montclair State Teachers

College, Montclair, N.J. Subject, Edu-

cation. Speaker: Dr. W. O. Baker, vice

president, research, Bell Laboratories.

For information: Dr. F. A. Lowenheim,

P.O. Box 471, Rahway, N.J.

Feb. 8, 1957. New York Chapter. Joint

meeting with American Chemical So-

ciety. Program to be announced.

Feb. 13, 1957. National AIC Council and Board of Directors. Dinner meeting. The Chemists' Club, 52 East 41st St., New York 17, N.Y.

Feb. 26, 1957. New Jersey Chapter. Plant Trip. Visit to RCA Research Laboratories, Princeton, N.J. 2:00 p.m. Registration required prior to plant visit.

Mar. 7, 1957. New York Chapter. Presentation of Honorary AIC Membership to Lawrence H. Flett, formerly AIC president. Details to be announced.

April 4, 1957. New York Chapter. Young Chemists' Meeting. Program to be announced.

May 1957. (Date to be announced) New Jersey Chapter. Military Park Hotel, Newark, N. J. Cocktails 6 p.m., dinner 7:00 p.m. Annual awards, program and speaker. Student medals will be presented to outstanding students of chemistry in the New Jersey Chapter area.

May 21, 1957. National AIC Council and Board of Directors. Dinner Meeting. Sheraton-Mayflower Hotel, Akron, Ohio.

May 22-24, 1957. Thirty-fourth Annual Meeting. THE AMERICAN INSTITUTE OF CHEMISTS. Sheraton-Mayflower Hotel, Akron, Ohio.

June 6, 1957. New York Chapter. Honor Scroll Award meeting. Program to be announced.

April 10-11, 1958. Thirty-fifth Annual Meeting. THE AMERICAN INSTITUTE OF CHEMISTS. Los Angeles, California. Host: The Western AIC Chapter.

May 14-15, 1959. Thirty-sixth Annual Meeting. THE AMERICAN INSTITUTE OF CHEMISTS, New York, N. Y. Host: The New York AIC Chapter.

For Record — Meetings in December

Dec. 6, 1956. Pennsylvania Chapter jointly with the Philadelphia sections of the American Chemical Society, The

American Institute of Chemical Engineers, and the Electrochemical Society. Meeting at the University of Pennsylvania Museum, Philadelphia, Pa. at 2 p.m. for afternoon symposium on "Scientific Manpower—its Meaning to the Scientist and the Nation." Speakers: Dr. Christopher Wilson, vice president, Hudson Foam Latex Corp.; Dr. Eli Ginzberg, professor of economics, Columbia University; Dr. Harry C. Kelly, assistant director, National Science Foundation. Moderator: Dr. Norman A. Shepard, former chemical director, American Cyanamid Co. Dinner Speaker: Dr. David H. Dawson, vice president, DuPont Co., "Scientific Manpower and the Economic Future."

Dec. 11, 1956. Washington Chapter, Luncheon. O'Donnell's Sea Grill, Washington, D.C. Speaker: Watson Davis of Science Service, "Public Relations of Professional Societies."

Dec. 12, 1956. National AIC Council and Board of Directors. Dinner Meeting. The Chemists' Club, 52 East 41st St., New York 17, N. Y.

Opportunities Doris Eager, M.A.I.C.

AIC members who are seeking positions may place notices in this column without charge.

Positions Available

Supervisory production man with experience in the calendarizing of vinyl sheeting. To take charge of plant and personnel. Age 35-50. Opportunity. Salary open. Box 121, THE CHEMIST.

Chemist, for development work on consumer products. Require minimum B.S. plus two years' experience. Please include resume and salary requirements in reply to Box 123, THE CHEMIST.

Chemist. Female. Degree and 6 months to one year's experience, preferably in food field. Hearst Magazines. 309 W. 56th St., New York 19, N.Y.

OPPORTUNITIES

Literature Chemist. Female. B.S. with to one year's experience.

Junior Technologist. B.S. in chemistry. Physico-chemical and some methods development using infra-red mass spectra, etc. Knowledge of electronic maintenance or design.

Junior Technologist. B.S. in chemistry, up to 3 yrs. experience. Microanalysis essentially, with some macro work also.

Section Head. Ph.D. or equivalent level. To 3 yrs. experience. To assist laboratory director. Potential and supervisory ability, leadership qualities desired. \$7500-9000.

For above positions, send resume to Employment Supervisor, General Foods Corp., Central Laboratories, 11th & Hudson Sts., Hoboken, N.J.

Chemists Available

Pharmaceutical & Cosmetic Technical Executive. Ten yrs. diversified experience; 5 years pharmaceutical & cosmetic technical service administrator (basic raw and processed bulk materials); 5 years director pharmaceutical research & development (pharmaceutical and cosmetic manufacturers). Pharmacy and advanced degrees. Age 34. Excellent references. Available Jan 1, 1957. Box 120, THE CHEMIST.

Chemist. B.A. in chemistry; 13 years broad experience in analytical and physical chemistry. Some literature searching and research. Age 36. Married with family. Desire responsible position with salary of \$6,000 or more. Box 122, THE CHEMIST.

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Research Is People

A Discussion of the Recruitment, Motivation, Recognition, Rating and Evaluation of Research Personnel. Presented at the Spring, 1956, Meeting of the Industrial Research Institute. New York University Press, viii—69 pp. 8 1/2" x 11". \$4.00

We are accustomed to find the round tables of the Industrial Research Institute interesting and stimulating. This one is certainly no exception. Here research workers are thought of as people, human beings, and a series of 14 papers is devoted to various aspects of that theme. The problem of recruiting is viewed thoughtfully from the several points of view of research administration, head of a university department, a college placement director and a student who has recently undergone the recruiting treatment. Motivation of a Research Man, and Rating and Evaluation of Personnel receive similar careful analysis from a diversity of points of view that makes the result particularly valuable.

A great deal more could be said on any of the topics included, but this reader feels strongly that stimulus to one's own thinking is the most desirable product of reading symposia like this one. This important phase of reading disappears if the writers attempt to do too much of the reader's thinking for him, and once lost is not easily recovered. That is not true here; the speakers (and writers) show delightful restraint and let the readers do as much of their own thinking as they wish. Each of us, for instance, can fill out Leetch's half dozen rules for hiring the wrong man with many experiences of our own; and Hildebrand's philosophy of teaching research starts us off on several series of interesting speculations. You too will find this book stimulating.

—D. H. Killeffer, F.A.I.C.

Perspectives in Organic Chemistry

Edited by Sir Alexander Todd. Interscience Publishers, Inc., 1956. X—527 pp. \$7.50.

In his foreword, the editor explains:

"This volume has its origin in the desire of a group of friends, colleagues, and pupils of Sir Robert Robinson to honour on his seventieth birthday one who has, by his personal force and through his outstanding contributions, profoundly affected the development of organic chemistry." The result of this desire is an extremely interesting, even fascinating book. It consists of 18 chapters, each written by a man in the forefront of scientific work on his subject, each penetrating deeply into special problems, and together presenting about the closest approach to a synthesis in this science which we can hope to achieve at present.

The book starts with Linus Pauling's survey of the theory of resonance, "an essentially qualitative theory, which like the classical structure theory, depends for its successful application largely upon a chemical feeling that is developed through practice" (p. 7). Paul D. Bartlett draws a general picture of Reaction Mechanisms. Next, Wilson Baker writes about the concept of aromaticity, mentioning the highly stable iron complex of dicyclo-pentadienyl called ferrocene, and telling the amazing story of the blue hydrocarbon, azulene. The series of "general" articles continues with D. H. R. Barton's summary of stereochemistry which includes "conformational analysis" of lanosterol and others. This kind of analysis is considered for the many-membered ring systems by V. Prelog. A. J. Birch starts his report on Biosynthetic Theories with J. N. Collie's theories (since 1893); shows how they were confirmed most recently in studies on griseofulvin, and warns that our concepts of "physiological" conditions for synthesis in the laboratory are speculative, "structural rather than sequential" (p. 141).

R. B. Woodward chose as his title simply: "Synthesis". He tells the synthesis story of cortisone, strychnine, and many others, and asks boldly: "Can the enzymes themselves be synthesized?" (p. 174). The special field of synthesis through metal-organic compounds is described by Karl Ziegler, with emphasis on the specific differences between the various metals, lithium and aluminum in particular.

Five articles on classes of chemicals follow. E. I. Hirst starts with the simple carbohydrates and ends with the complex

compositions of xylons in wood, levons in grasses, and the still more complex gums and bacterial carbohydrates. From Todd's chapter on Nucleic Acids, I quote: "The chromosomes are the carriers of the Mendelian genes and a number of observations . . . suggest that deoxy-ribonucleic acid may indeed be the genic material" (p. 260). L. Ruzicka's report on the terpenes has 122 references and an even larger number of structural diagrams; C. W. Shoppee's "Steroids" has still more references on structure and synthesis, including "the (synthetic) preparation of hormone analogues possessing activity greater than that of the natural hormones" (p. 331). In E. Schlittler's "Alkaloids" the report about *Rauwolfia* may be particularly captivating.

J. W. Cornforth finds that "Isotopes in Organic Chemistry" are at last a tool "which solves, on the whole, more problems than it creates" (p. 373). Under the title "Micro-organisms in Organic Chemistry" Karl Folkers describes, among others, the ways to vitamin B-6, the penicillins, and derivatives of cortisone. Biochemical topics continue in the three last chapters: James Walker on chemotherapy, including anti-malarials and metabolite antagonists; Holger Erdtman on Conifer Taxonomy ("One can hardly conceive that all recent pine species would, independently of one another, have discovered the method of 'embalming' their dead heartwoods with pinosylvins phenols" p. 471), and A. Butenandt on organic chemistry and genetics, showing the influences of genes in converting tryptophan into kynurenin and then ommochromes, relationships to pteridines and "the way nature uses to convert the benzene system into the pyridine system" (p. 517).

Most of these authors make legitimate use of a Festschrift occasion to show those general connections and creative conclusions which usually, and I think unwisely, are excluded from publications and current periodicals. "There is excitement, adventure, and challenge, and there can be great art, in organic synthesis" (Woodward, p. 158). No chemist, in all his necessary specialization, should have lost the ability to enjoy this book and to profit by it.

—Dr. Eduard Farber, F.A.I.C.

Particle Size Determination

By R. D. Cadle. *Interscience Manual*
No. 7. Interscience Publishers, Inc. 1955.
303 pp. 5" x 7 1/2". \$5.50.

This is a review of methods for the determination of the distribution of particle sizes. It is evident that much work has been done and remains to be done. Above all, a simple method of expression of the results is needed.

—Dr. John A. Steffens, F.A.I.C.

Statistical Analysis in Chemistry and the Chemical Industry

By Bennett and Franklin. John Wiley & Sons, Inc. 724 pp. 6 1/4" x 9 1/4" \$8.00.

A most complete treatment of the statistics of experimental data are contained in this well-prepared volume. Methods, nomenclature and analyses are elaborated in detail. Anyone interested in the subject should find this book most useful.

—Dr. John A. Steffens, F.A.I.C.

Chemical Books Abroad

Dr. Rudolph Seiden, F.A.I.C.

Karl F. Haug Verlag, Ulm-Donau: *Vorlesungen ueber Wirkung und Anwendung der deutschen Arznei-Pflanzen*, by H. Schulz; 4th ed., 466 pp.; DM 18.—A description of German plants used therapeutically or prophylactically in medicine or as time-honored household remedies. • *Isopathia*, by E. Busse; 1956, 67 pp.; paperbound DM 4.80.—A history of isopathy — the treatment of disease by means of causal agent or (healthy) organ extracts—and its theories; the preparation of isopathic remedies and their uses are also briefly mentioned. • *Neuer Weg in der Betrachtung des Krebsproblems*, by K. Th. Goetz; 1956, 70 pp. (33 ill.); paperbound DM 7.80.—Another approach to the cancer problem, this one based on protein chemical concepts; because amides of phosphoric acid, NaH_2PO_4 , NaH_3PO_4 , and HCOONa destroy the cells found in the ascites-tumor liquid, these chemicals are suggested for the treatment of cancer.

Ferdinand Enke Verlag, Stuttgart: *Die Chemie der natuerlichen Alkaloide, Part 2* (pp. 449-732), by Gertrud Woker; 1956; DM 56;—This is a continuation of

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the important work on the chemistry of the natural alkaloids (see *The Chemist*, February, 1954). It covers the alkaloids of the lobelia and coca plants and more fully those derived from phenylamine, tyrosine, and oxytyrosines. • *Chemie und Technik der Vitamine, Vol. II.*, by H. Vogel; 3rd ed.—Issue 1 of Part 2 of this work contains much valuable information on biotin (96 pp.) and niacinamide (64 pp.); price DM 27.60.

Moser Verlag, Garmisch-Partenkirchen: *Kosmetische Praeparate in Spiegel der Fachliteratur, Vol. II: Haarkosmetik*, by H. Manneck; 1955, 74 pp.—A discussion of the biochemistry of the hair and an extensive review of the world literature of hair cosmetics, such as shampoos, permanents, hair waters, oils, dyes, bleaches, and depilatories.

Hadert-Lexicon-Verlag, Berlin W 30: *Pruef-, Mess- und Kontroll- Gerate Lexikon*, by H. Hadert; 1954, 748 pp., (880 ill.); DM 38.—A unique encyclopedia—it briefly describes in 96 groups all types of equipment and instruments designed for testing, measuring, and controlling raw materials and finished goods of the various industries. Many of them are of practical value to chemists and engineers engaged in research or production work.

Econ-Verlag, Duesseldorf: *Die chemische Industrie der Welt*, by Metzner; 1955; Vol. I: *Europa*, including USSR and its satellites; (671 pp.), and Vol. II: *Uebersee*—Africa, Asia, Australia, South and North America (464 pp.). This is the first thorough investigation of the 51-billion dollar chemical industry of the world (in 1954). The author did a great job in dealing with this difficult subject matter by coordinating the mass of published data available from countless official and other sources and by making them comparable by defining precisely the so-called loosely used terms, chemical industry, chemicals, production values, etc. There is a tremendous amount of re-calculated and revised figure material compiled in the text and tables of this work which cannot be highly enough recommended to those interested in export and in the expansion of their own organizations here or abroad.

Pitman Publishing Corp., London and New York: *Potter's New Cyclopaedia of Botanical Drugs and Preparations*, by R. C. Wren; 7th ed.; 412 pp. (200 ill.); \$10.—A carefully prepared reference book which provides an account of characteristics for the identification of hundreds of herbs—from abscess root to Zedoary—with brief information on habitat, action, and medical uses of plant parts and drugs prepared from them. There are also most interesting references to the Bible and to old Herbals, a historical review, a formula of household remedies, and valuable glossaries.

Verlag Dr. Dietrich Steinkopff, Darmstadt: *Kurzes Lehrbuch der physikalischen Chemie*, by Ulrich and W. Jost; 9th ed.; 373 pp. (103 ill., 61 tables); DM 18.—A modern textbook of physical chemistry which presents in well organized manner the properties and structure of matter, the laws of thermodynamics and their applications, and the fundamentals of electrochemistry and chemical kinetics.

Hypokrates-Verlag, Stuttgart: *Rohkost und Rohsaefte*, by L. Schlegel; 1956; 136 pp.; DM 15.80.—A physician's endorsement of health food and vegetable and fruit juice cures; with data on the dietary value of uncooked foodstuffs.

Organization for European Economic Cooperation Washington 6, D.C.: *The Chemical Industry in Europe*; 1955; 212

pp., paperbound \$2.—The 2nd official report on the economical trends in the complex chemical industry of Europe in 1954-55. The investigators come to the conclusion that the outlook for the chemical industry is favorable, owing to the development of new products and the wide range of its activity, but they warn also that the industry will have to dispose of an increasing part of its production on foreign markets in competition with local producers and those from 3rd countries, above all the U.S.

Walther deGruyter & Co., Berlin W. 35: *Anorganische Chemie*, by W. Klemm; 9th ed.; 184 pp. (18 ill.); paperbound DM 2.40.—A comprehensive treatment of the theories of general chemistry and of the elements and their inorganic compounds.

Something New

"Teaching Salaries Then and Now", by Beardsley Ruml & Sidney G. Tickton. (A 50-year comparison with other occupations and industries.) Bulletin No. 1, The Fund for the Advancement of Education, 655 Madison Ave., New York 21, N.Y.

"Teachers for Tomorrow." Bulletin No. 2, The Fund for the Advancement of Education, 655 Madison Ave., New York 21, N.Y.

"Our Smallest Servants." 32-pp book on fermentation chemistry. Available to libraries, students, teachers, writers, editors, and others interested. Chas. Pfizer & Co., Inc., 630 Flushing Ave., Brooklyn 6, N.Y.

"Molybdenum Chemical Bulletins." List. Climax Molybdenum Co., 500 Fifth Ave., New York 36, N.Y.

"Industrial Research Laboratories of the U.S. (1956)." Directory. \$10.00. 560 pp. National Academy of Sciences, National Research Council, 2101 Constitution Ave., Washington 25, D.C.

"Organization of the Federal Government for Scientific Activities." Report by National Science Foundation. \$1.75 from Superintendent of Documents, U.S. Gov. Ptg. Off., Washington 25, D.C.

"Handbook of Scientific and Technical Awards in the U.S. and Canada, 1900-1952." \$10.00. Special Libraries Association 31 E. 10th St., New York 3, N.Y.

SOMETHING NEW

"The World of Learning 1956." 7th Edition. International guide to educational institutions. \$18.50. Europa Publications Ltd., 56 Bloomsbury St., London, W.C. 1, England.

"American Documentation." Quarterly review. Subscription \$6.50. Interscience Publishers, 250 Fifth Ave., New York 1, N.Y.

"The Question of Chronological Vs. Physiological Aging in Industry." Bulletin. Occupational Health Institute, Inc., 6 East 39th St., New York 16, N.Y.

"Encyclopedia of American Associations." \$15.00 Gale Research Co., 247 Kenworth Road, Columbus 14, Ohio.

"Frontiersman of the Future." Booklet on careers in chemistry. Manufacturing Chemists' Association, Inc., 1625 Eye St., N.W., Washington 6, D.C.

"Annotated, Subject-Heading Bibliography of Termites 1350 B.C. to A.D. 1954." By Thomas E. Snyder. Smithsonian Miscellaneous Collection. Vol. 130. Information: The Smithsonian Institution, Washington, D.C.

"Filamatic" attachment for dispensing metal-sensitive liquids. The KFU Filling Unit is for use with Filamatic Vial Filling Machine. Information. Scientific Glass Apparatus Co., Inc., Bloomfield, N.J.

"Recent Developments in Laboratory Technique and Measuring and Control Practice. Nos. 332-362, Vol. 27, Dechema-Monograph Series. 359 pp. Published by DECHEMA Deutsche Gesellschaft fuer chemisches Apparatewesen. DM 42.15, from Verlag Chemie GmbH, Weinheim/Bergstrasse, Germany.

"Custom Made Laboratory Glassware." Catalog No. CA-2. 139 pp. Laboratory & Pharmaceutical Sales Dept., Corning Glass Works, Corning, N.Y.

"Thermobestos Pipe & Block Insulation." 12 pp booklet. Johns-Manville, 22 E. 40th St., New York 16, N.Y.

"Annual Report on the Activities of the DECHEMA for the year 1955." 44 pp. Free so long as supply lasts from DECHEMA Deutsche Gesellschaft fuer chemisches Apparatewesen, Frankfurt am Main—W7, Postfach, Germany.

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"Public Relations for the Atomic Industry." Handbook 178 pp. \$3.00. Atomic Industrial Forum, Inc., 3 E. 54th St., New York 22, N.Y.

"Industrial Health, Its Contribution to the Health of a Nation." Report of meeting of Occupational Health Institute. Information. Occupational Health Institute, 6 E. 39th St., New York 16, N.Y.

"Proceedings of the World Symposium on Applied Solar Energy", 300 pp. \$5.00. Association for Applied Solar Energy, 204 Heard Bldg., Phoenix, Arizona.

"Soap is Essential to Health, Welfare, & Morale." Quotations about soap and its uses. Cleanliness Bureau, Association of American Soap & Glycerine Producers, Inc., 295 Madison Ave., New York 17, N.Y.

"Production Control Use of X-ray by Shell Oil." 2 pp. bulletin. Instruments Div., North American Philips Co., Inc., 750 So. Fulton Ave., Mt. Vernon, N.Y.

"Mobile Freeze-Drying Unit." Information. Palo Laboratory Supplies, Inc., 81 Reade St., New York 7, N.Y.

"Polymerization of Propylene." Availability of recent Belgian patent, No. 538,782, describing the Ziegler Montecatini process. Translation. \$45.00. For details write, Chemonomics, Inc., 270 Park Ave., New York 17, N.Y.

"Cargille-Wagner Distilling Unit No. CW-656". Portable case available. Information. Cargille Scientific Inc., 117 Liberty St., New York 6, N.Y.

"Mobil-Cold Forced Flow Circulating Cooler." Information. A Daigger & Co., 159 W. Kinzie, Chicago 10, Ill.

Moved: Pharmaceutical Research Center, division of Synergistics, Inc., to 15 E. 62nd St., New York 21, N.Y. Dr. Alfred Halpern, F.A.I.C., is scientific director.

Meeting: Of Society for Applied Spectroscopy. Jan. 15, 1957, 6:15 p.m. Philadelphia College of Pharmacy & Science Cafeteria. Speaker, Earl R. Stephens, Franklin Institute, "Long Path Infrared Spectroscopy for Air Pollution Research."

Promoted: Dr. Bernard S. Friedman, F.A.I.C., to research associate of Sinclair Research Laboratories, Inc., Harvey, Ill. He joined Sinclair in 1948. In 1952, he was chairman of the Chicago AIC Chapter, and is active in AIC and other society activities.

Appointed: Dr. William A. Raimond, F.A.I.C., as technical director of the Organic Chemicals Division of American Cyanamid Company, New York 20, N.Y. Dr. Raimond has been assistant technical director since 1955. He joined the company in 1942.

Elected: President of the American Oil Chemists' Society of Chicago 1, Ill., T. H. Hopper, F.A.I.C., who is head of the Analytical, Physical-chemical, and Physics Section of the Southern Regional Research Laboratory, New Orleans, La.

Elected: Shepherd Stigman, M.A.I.C., of the G. M. Basford Co., New York 17, N.Y., as vice president of the Chemical Industry Association. The Secretary of the Association is Stuart Powell, of Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y. Dr. Pauline Newman, F.A.I.C., of Food Machinery & Chemical Corp., is chairman of the Hospitality Committee.

Moved: Roger Williams Technical & Economic Services, Inc., to P.O. Box 426, Princeton, N.J. The New York office will remain at 148 East 38th St., New York 16, N. Y.

Honored: James G. Park, F.A.I.C., vice president of the Enjay Company, Inc., New York 19, N.Y. with the "Public Service Award" of the Alumni Association of Polytechnic Institute of Brooklyn, for leadership in civic organizations and for professional achievement.

Appointed: Dr. R. H. Leet, M.A.I.C., as group leader in the Lubricants Division of Standard Oil Company (Indiana), Chicago 80, Illinois. He started work with the company in 1953 at Whiting.

New Publication: *The Sun at Work*, a newsletter published by the Association for Applied Solar Energy, 204 Heard Bldg., Phoenix, Arizona.

New Position: For Dr. Oscar R. Rodig, A.A.I.C., who is now assistant professor of chemistry, Cobb Chemical Laboratory, University of Virginia, Charlottesville, Va.

Announced: By Dr. J. E. Magoffin, F.A.I.C., sales manager of the Chemical Division of Eastman Chemical Products, Inc., the creation of a new chemical sales development section. William M. Gearhart has been appointed manager of the new section.

Moved: The Publications Department of the Textile Research Institute to P. O. Box 625, Princeton, N.J.

Awarded: To Albert J. Moscowitz, A.A.I.C., who is studying at Harvard University, an American Chemical Society Petroleum Research Fund Postdoctoral Fellowship for 1956-1957.

Promoted: Miss Mona Oser, F.A.I.C., who is now assistant to the director of Food Research Laboratories, Inc., Long Island City 1, N.Y. She was formerly chief biologist.

Awarded: To Fred C. Anson, A.A.I.C., graduate student at Harvard University, the 1956 Merck Graduate Fellowship in analytical chemistry.

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Appointed: Dr. Emil Ott, F.A.I.C., vice president and director, Central Chemical Research, Food Machinery & Chemical Corp., New York, N.Y., as a member of the Advisory Committee of the Research Division of the College of Engineering of New York University.

Added: To the staff of Robinette Research Laboratories, Inc., Ardmore, Pa., Joseph Bussian, George Kehl and Alex Marinelli to the staff of technologists. The laboratories are currently expanding laboratory facilities.

Already Planted: In today's research laboratories, are many of the seeds for the biochemical advances that will take place during the next fifty years. So stated Dr. H. J. Prebuda, F.A.I.C., manager of Special Products Sales for U. S. Industrial Chemicals Co., Division of National Distillers Products Corp., when speaking on "The Next Half Century of Biochemistry" at the summer conference of the Science Teachers Association of New York State.

Appointed: Dr. Max Tishler, F.A.I.C., as vice president and executive director of the Merck, Sharp & Dohme Research Laboratories at Rahway, N.J., He was formerly vice president for scientific activities of the Chemical Division of Merck.

Resigned: Dr. Randolph T. Major, F.A.I.C., as scientific vice president of Merck & Co., Rahway, N.J., after twenty-five years of service. He continues on a part-time basis with Merck in an advisory capacity.

Appointed: By the United States Atomic Energy Commission, Lucius Pitkin, Inc., 47 Fulton St., New York 38, N.Y., as its representative to conduct the program for uranium and vanadium procurement and concentrate-receiving in the Western United States. Dr. Robert H. Bell, F.A.I.C., is president of the company.

Promoted: Dr. Milton J. Klein, F.A.I.C., to assistant supervisor of propellant chemistry research at Armour Research Foundation, Chicago 16, Ill. He joined Armour as associate chemist in 1953.

Elected: Harry Bennett, F.A.I.C., president of Glyco Products Co., Inc., New York 1, N.Y., to membership in Tau Beta Pi, Epsilon Chapter of New York University.

Transferred: John M. McIlvain, F.A.I.C., to the European Branch Office of The Atlantic Refining Company at Hamburg 1, Spaldingstr. 64, Germany, to provide closer contact with European companies interested in new scientific developments in petroleum technology.

Moved: Coating Materials Laboratories, Inc., to 57 East Centre St., Nutley 10, N.J.

Officers: Of The American Board of Clinical Chemistry, Inc., for 1956-57, are: President, Marschelle H. Power, Mayo Clinic, Rochester, Minn.; Vice President, Dr. Warren M. Sperry, F.A.I.C., N.Y. State Psychiatric Institute, 722 W. 168th St., New York 32, N.Y., and Secretary-Treasurer, Dr. William A. Wolff, Bowman Gray School of Medicine, Winston-Salem 7, N.C. Dr. Joseph W. E. Harrison, F.A.I.C., is a member of the Board. Clinical chemists interested in being certified should write to the Secretary for "Instruction to Applicants for Certification."


Translated: The popular book, *Two Ears of Corn, Two Blades of Grass*, by D. H. Killeffer, F.A.I.C., into the Spanish, Japanese, Korean, and Portuguese languages. Negotiations are proceeding for German and Dutch rights according to the publisher, D. Van Nostrand Co., Inc.

Reappointed: Dr. Foster Dee Snell, F.A.I.C., president of Foster D. Snell, Inc., New York 11, N.Y., as representative of the American Oil Chemists' Society to the Division of Chemistry and Chemical Technology of the National Research Council for the period 1956-1959.

Graduate fellowships: Established by Celanese Corporation of America for research in physics, chemistry, engineering, textiles, cellulose, and plastics fields at the following universities: Cornell, Illinois, Louisiana State, McGill, North Carolina State, Oklahoma, Princeton, Texas, Maryland, Yale, Georgia Institute of Technology, Rice Institute, and Lowell Technological Institute.

Promoted: Dr. Andrew J. Bartilucci, M.A.I.C., from assistant dean to dean of the College of Pharmacy of St. John's University, Brooklyn 6, N.Y. He joined the faculty in 1952 as assistant professor.

Announced: By Dr. Ernest H. Volwiler, Hon. A.I.C., president of Abbott Laboratories, North Chicago, Ill., the establishment of a center for research on feed additives and drugs for poultry and animals in Lake County, Ill., in connection with the company's expanding agricultural and veterinary program.



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Elected: Dr. Maurice L. Moore, F.A.I.C., as national secretary-historian of Alpha Epsilon Delta, pre-medical honor society, 7 Brookside Circle, Bronxville, N.Y.

Promoted: Charles A. Aldag, A.A.I.C., from sales trainee to technical sales representative for the Archer-Daniels-Midland Company, at the sales office in Cincinnati, Ohio.

Elected: W. H. Byler, F.A.I.C., vice president of the Radelin Division of the U. S. Radium Corporation, Morristown, N.J., to the board of directors of the company.

Centennial Year: For Tyer Rubber Co., Andover, Mass., manufacturers of molded rubber products, and contributors to rubber processing methods.

Please Note

A credit line to *Chemical and Engineering News* was omitted under the photograph on page 441 of the November issue of THE CHEMIST.

RARE CHEMICALS

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Food Crusade: Care, 660 First Ave., New York 16, N. Y., is packing 40-million pounds of U. S. surplus food in 22-pound packages for distribution to needy areas of the world, and will accept contributions of \$1. per package. Name and address of donor will be included in package, if desired.

Appointed: Samuel Cohen, M.A.I.C., as sales manager of Glyco Products Co., Empire State Building, New York 1, N.Y. He has been with the company for twelve years.

Nuclear Congress: To be held in the Convention Hall, Philadelphia, Pa., March 11-15, 1957. Dr. Walter G. Whitman has been named chairman of the Congress. The American Institute of Chemical Engineers, with four other top engineering societies, are sponsoring the 1957 International Atomic Exposition as part of the Nuclear Congress. For information: Atomic News Exposition Office, 304 Architects Bldg., Philadelphia 3, Pa.

Honored: Karl M. Herstein, F.A.I.C., on the occasion of his sixtieth birthday, by his friends, both in and out of the chemical profession, at a dinner at the Hotel Granada, Brooklyn, N.Y., on November 29th. Dr. Raymond E. Kirk, F.A.I.C., of Polytechnic Institute of Brooklyn, introduced Prof. John Nelson of Columbia University, Mr. Herstein's former professor and adviser. Dr. Kirk read testimonial letters, which included one from Dr. Donald B. Keyes, F.A.I.C., in memory of the late Dr. Bernard Herstein, father of the honored guest.

Appointed: Charles Gardner, F.A.I.C., as manager of paint chemical sales for the Chemical Sales Division of Witco Chemical Co., 122 E. 42nd St., New York 17, N.Y. He was formerly manager of drier sales for the company.

Twenty-fifth Anniversary: Of the founding of the Gordon Research Conferences, celebrated December 27th, 1956, at the Hotel Commodore, New York, N.Y., during the annual meeting in New York of The American Association for the Advancement of Science. The first conference was held at Johns Hopkins University during the summer of 1931.

Appointed: Dr. Lloyd A. Hall, F.A.I.C., one of eleven members to Conservation Community Council by Mayor Daley of Chicago, Ill.

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saves freight expenses (lighter weight—no return)
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NO DEPOSIT, NO RETURNS. Because Thro-A-Way bottles and cases are *one-way* shipping containers, you save man-hours in your laboratory and your bookkeeping department. No credit vouchers—no complicated paper work—no shipping charges to return empties.

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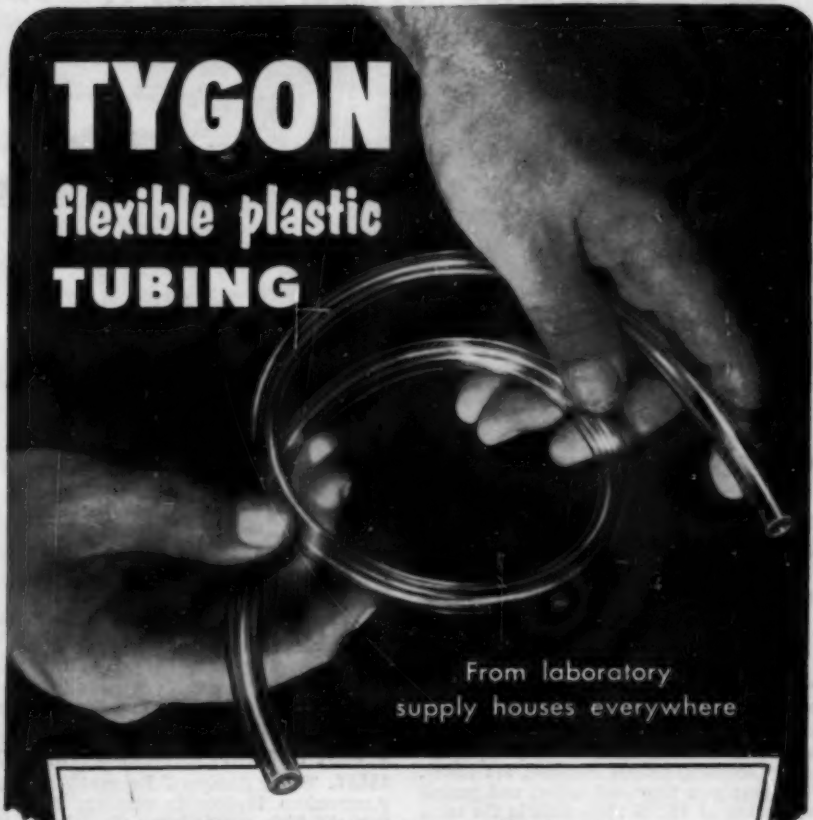
*The following 'Baker Analyzed' Reagent Acids are available in Thro-A-Way bottles and cases (cases contain six 5-pint bottles): Acetic, Hydrochloric, and Sulfuric; plus Ammonium Hydroxide. Returnable cases and bottles continue to be available if desired. Nitric and Perchloric Acids are available only in returnable cases.

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